

Appendix A. Cruise Reports for Sampling Within the Penasquitos Hydrologic Unit

Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) of the California Regional Water Quality Board San Diego Region (RWQCB9)

Round 1 “Wet-Between Storm Events” Season Sample Collection (FY00-01 funded)

Sampling dates: 3/11-3/14 2002

**Written by: Sean Mundell
MPSL at Moss Landing Marine Laboratories
Updated: 3/19/02**

1.0 Introduction

This report describes the sampling activities and access issues for sampling stations for the SWAMP “wet-between storm events” sample collection effort for the California Regional Water Quality Control Board San Diego Region (RWQCB 9). The "wet-between storm event" for this Round 1 of RWQCB 9's work authorized via FY00-01 funding in support of SWRCB Contract No. 00-111-250. The work for the first year SWAMP RWQCB 9 effort, including this “wet-between storm event” season Round 1, focuses on monitoring Carlsbad and Los Penasquitos watersheds. A table is attached which provides a summary of the information from each station in regards to what type of media was authorized to be collected, and what was actually able to be collected.

2.0 Cruise Report

2.1 Objectives

The objectives were to collect water and sediment from fifteen (15) stations, ten (10) Carlsbad Watershed sites, and (5) Los Penasquitos Watershed sites. The water and sediment would be used for specific analyses as directed by RWQCB 9 in task order-00-9-001 (see Section 2.5 below). Blind duplicates were collected at a rate of 5% of the stations sampled for each specific type of analyses authorized. No field duplicate samples were authorized or collected for toxicity testing.

2.2 Sampling personnel

Sean Mundell
Bryan Frueh

MPSL/CDFG
MPSL/CDFG

Crew Lead
Scientific Aid

2.3 Authorization to collect samples

All sampling personnel are Marine Pollution Studies Laboratories staff (through San Jose State University Foundation) contracted through California Department of Fish and Game (CDFG) SWAMP contract # P0075038 to conduct the sample collection activities listed herein. The funding and authorization to collect the samples described herein is contained in the State Water Resources Control Board (SWRCB) to CDFG Task Order-00-9-001, including the description of each type of sample necessary to be collected at each station, based on analyses authorized on samples to be collected from each station.

2.4 Station selection and reconnaissance

RWQCB 9 SWAMP personnel chose sampling stations, conducted the pre-sample collection reconnaissance activities, provided reconnaissance sheets for sample sites, authorized the specific types of analyses to be conducted at each station, as well as the funding for the collection and analyses as set forth in the Task Order 00-9-001. See Table 1, which provides the attached summary of analysis and date collected for the locations sampled.

2.5 Summary of types of samples authorized to be collected

A total of 15 stations were visited during this Round 1 "wet-between storm event" sample collection effort, in order to attempt to collect samples of water and sediment. Sample stations were reached either via hiking or driving to the various streams, and carrying the sampling equipment to each station. Each of the 15 stations had the same water and sediment analyses authorized to be conducted, dictating the volumes of water necessary at each station, as well as the types of containers, and any specific collection (qa/qc requirements-preservatives, homogenizing, aliquoting, cooling, etc.).

At all 15 stations, multiparameter probe measurements were authorized to be taken for D.O., pH, temperature, conductivity, and turbidity. At all 15 stations, water was authorized to be collected for various conventional water quality parameter analyses (total ammonia--unionized ammonia will be calculated, and reported in the dataset, from the total ammonia measurement using synoptic instantaneous probe measurements for pH and temperature when water sample is taken for total ammonia; nitrate; ortho-phosphate; total phosphate; sulfate; TKN; Alkalinity). Water was also authorized to be collected for conducting water column chemistry for dissolved trace metals and organic pollutants (PCB's PAH's and conventional pesticides).

At all 15 stations, centroid velocity measurements were authorized to be taken. The velocity probe wading rod measures the total depth at an "average" location in the streambed. The velocity meter measures the flow by counting the total revolutions of the flow wheel. The flow wheel measures the stream velocity at 0.6 depth of the total depth in the streambed.

At all 15 stations, water samples were authorized to be collected for the EPA 2-species toxicity tests to be conducted (*Ceriodaphnia* and *Selenastrum* algae). At these same 15 stations, sediment samples were authorized to be collected for toxicity testing using *Hyalella*, and grain size assessment (% fines analysis).

The summary of authorized analyses for each station and types of samples to be collected are listed in Table 1. Once samples were collected, they were put on ice and shipped via overnight Federal Express service to various laboratories for authorized analysis, per appropriate SOP's.

2.6 Discussion

The sampling team encountered some problems during this sampling period. Over all most samples could be collected, but there are several points of possible improvement in sampling planning and information communication. First of all the sampling team needs the sampling plan, recon sheets and schedules to be in place at least 2 weeks prior to the field trip. We were unsure of some site locations and their directions before the sampling team left for the trip. This makes proper trip planning difficult and wastes time in the field when more sample collection could be taking place. It is best for the team to know every site and their directions before the trip takes place to better orient where and what order sample collection will occur.

Improved driving directions, site recon information as well as site identification is necessary. GPS coordinates are needed in decimal degrees for every site as well as written instructions including mile markers, street names, cross streets, major highways etc. A more accurate description of the distance from the "drive-in point" to the actual sample collection location would be extremely beneficial. This prevents confusion with sites from different watersheds. Recon information about the necessity of four-wheel drive, unusual access problems or special gear needed is necessary.

Finally, there were concerns at many of these stations that the water and sediment could be contaminated with elements detrimental to the sampling crew's health. While this is always a concern for sample collection efforts, and all samples should be deemed as potentially hazardous, it would be very helpful and in fact it is requested from here forward that any known information about a station be provided well in advance, so that proper precautions can be taken when collecting at a particular station. This would include any pre-existing knowledge that could be helpful to a sample collection crew, including discharges of STP's, animal waste facilities, known "hotspots", high crime areas, etc.

Over all, information on the reconnaissance sheets were helpful in aiding the samplers collection.

2.7 Results

Out of the 15 stations collected 2 (stations #906LPRSC4 and #906LDTEC3) were unable to be collected for sediment due to the sites consisting of small pebbles and large rocks. Thus, out of all the 15 stations sampled, 13 were sampled for sediment toxicity, grain size and TOC (% fines) and all 15 sites for water inorganics, toxicity, organics and dissolved trace metals were collected.

2.8 Description of Sample Collection Stations

There was one Marine Pollution Studies Laboratory team that sampled the Carlsbad and Los Penesquitos Watersheds during the week of 3/11-3/14 2002. Section 2.8.1 (below) lists the sampling date, time and occurrences in detail at each site.

2.8.1 Samples Collected the week of 3/11-3/14 2002 By: Sean Mundell and Bryan Frueh

Please note that only sampling events related to the Penasquitos HU are included.

Station Name: Los Penasquitos Creek
Sample Station Number: 906LPLPC6
Date: 3/13/02 Arrival Time: 1420

We accessed this site using the nominal coordinates on the GPS. There was an access gate that was locked but provided close parking for the sample vehicle. All authorized water and sediment samples were collected.

Station Name: Soledad Canyon Creek
Sample Station Number: 906LPS0L2
Date: 3/13/02 Arrival Time: 1540

We accessed this site using the nominal coordinates on the GPS. We parked in the back of the fresh water systems parking lot and had walk down steep bank to get to the sampling site. There was fine grain sediment located upstream from where the water samples were taken. All authorized water and sediment was collected.

Station Name: Rose Canyon Creek
Sample Station Number: 906LPRSC4
Date: 3/13/02 Arrival Time: 1725

We accessed this site using the nominal coordinates on the GPS. It was hard to find the access road that led to this site and it was not stated on the recon sheet. There was a lot of poison oak on the trail that led down to the streambed. There were only small pebbles and large rocks up and downstream at this sampling site so the authorized sediment was not collected at this site. All authorized water samples were collected.

Station Name: Poway Creek
Sample Station Number: 906LPP0W2
Date: 3/14/02 Arrival Time: 1038

We accessed this site using the nominal coordinates on the GPS. There was a cul-de-sac for parking close to the sampling site. There were small side streams across the entire streambed but the water was collected in the main channel. Sediment was collected also in the main channel and had lots of organics due to the heavy tulle growth. All authorized water and sediment samples were collected.

Station Name: Tecolote Creek
Sample Station Number: 906LPTEC3
Date: 3/14/02 Arrival Time: 1215

We accessed this site using the nominal coordinates on the GPS. Carla from the Tecalote Regional Park was contacted before we went to the site. She unlocked the gate that made access easier to the sampling site. There was a very small visible flow at this site but the velocity meter could not measure it. Due to the small pebble to large rock stream we could not find any fine grain sediment to collect. The authorized sediment could not be collected at this site. All authorized water samples were collected.

**Cruise Report for the
Surface Waters Ambient Monitoring Program (SWAMP)
of the
California Regional Water Quality Board San Diego Region (RWQCB9)**

Round 2 “Wet-High Base Flow” Season Sample Collection (FY00-01 funded)

Sampling dates: April 22-25, 2002

**Written by: Sean Mundell
MPSL at Moss Landing Marine Laboratories
Updated: 4/29/02**

1.0 Introduction

This report describes the sampling activities and access issues for sampling stations for the SWAMP “wet-high base flow” sample collection effort for the California Regional Water Quality Control Board San Diego Region (RWQCB 9). The “wet-high base flow” for this Round 1 of RWQCB 9's work authorized via FY00-01 funding in support of SWRCB Contract No. 00-111-250. The work for the first year SWAMP RWQCB 9 effort, including this “wet-high base flow” season Round 2, focuses on monitoring Carlsbad and Los Penasquitos watersheds. Table 1 is attached which provides a summary of the information from each station in regards to what type of media was authorized to be collected, and what was actually able to be collected.

2.0 Cruise Report

2.1 Objectives

The objectives were to collect water and sediment from fifteen (15) stations, ten (10) Carlsbad Watershed sites, and (5) Los Penasquitos Watershed sites. The water and sediment would be used for specific analyses as directed by RWQCB 9 in task order-00-9-001 (see Section 2.5 below). Blind duplicates were collected at a rate of 5% of the stations sampled for each specific type of analyses authorized. No field duplicate samples were authorized or collected for toxicity testing.

2.2 Sampling personnel

Sean Mundell
Bettina Sohst

MPSL/CDFG
MPSL/CDFG

Crew Lead
Crew Lead

2.3 Authorization to collect samples

All sampling personnel are Marine Pollution Studies Laboratories staff (through San Jose State University Foundation) contracted through California Department of Fish and Game (CDFG) SWAMP contract # P0075038 to conduct the sample collection activities listed herein. The funding and authorization to collect the samples described herein is contained in the State Water Resources Control Board (SWRCB) to CDFG Task Order-00-9-001, including the description of each type of sample necessary to be collected at each station, based on analyses authorized on samples to be collected from each station.

2.4 Station selection and reconnaissance

RWQCB 9 SWAMP personnel chose sampling stations, conducted the pre-sample collection reconnaissance activities, provided reconnaissance sheets for sample sites, authorized the specific types of analyses to be conducted at each station, as well as the funding for the collection and analyses as set forth in the Task Order 00-9-001. See Table 1, which provides the attached summary of analysis and date collected for the locations sampled.

2.5 Summary of types of samples authorized to be collected

A total of 15 stations were visited during this Round 1 "winter season" sample collection effort, in order to attempt to collect samples of water and sediment. Sample stations were reached either via hiking or driving to the various streams, and carrying the sampling equipment to each station. Each of the 15 stations had the same water and sediment analyses authorized to be conducted, dictating the volumes of water necessary at each station, as well as the types of containers, and any specific collection (qa/qc requirements-preservatives, homogenizing, aliquoting, cooling, etc.).

At all 15 stations, multiparameter probe measurements were authorized to be taken for D.O., pH, temperature, conductivity, and turbidity. At all 15 stations, water was authorized to be collected for various conventional water quality parameter analyses (total ammonia--unionized ammonia will be calculated, and reported in the dataset, from the total ammonia measurement using synoptic instantaneous probe measurements for pH and temperature when water sample is taken for total ammonia; nitrate; ortho-phosphate; total phosphate; sulfate; TKN; Alkalinity). Water was also authorized to be collected for conducting water column chemistry for dissolved trace metals and organic pollutants (PCB's PAH's and conventional pesticides).

At all 15 stations, centroid velocity measurements were authorized to be taken. The velocity probe wading rod measures the total depth at an "average" location in the streambed. The velocity meter measures the flow by counting the total revolutions of the flow wheel. The flow wheel measures the stream velocity at 0.6 depth of the total depth in the streambed.

At all 15 stations, water samples were authorized to be collected for the EPA 2-species toxicity tests to be conducted (*Ceriodaphnia* and *Selenastrum* algae). At these same 15 stations, sediment samples were authorized to be collected for toxicity testing using *Hyalella*, and grain size assessment (% fines analysis).

The summary of authorized analyses for each station and types of samples to be collected are listed in Table 1. Once samples were collected, they were put on ice and shipped via overnight Federal Express service to various laboratories for authorized analysis, per appropriate SOP's.

2.6 Discussion

Since the sampling team had already previously sampled the 15 sites, the access issues and directions were much more easier to follow. There were concerns at many of these stations that the water and sediment could be contaminated with elements detrimental to the sampling crew's health. Due to the heavy rainfall on 3/24, some of the sites (see section 2.8.1) had heavy storm water runoff in the creeks. While this is always a concern for sample collection efforts, and all samples should be deemed as potentially hazardous, it would be very helpful and in fact it is requested from here forward that any known information about a station be provided well in advance, so that proper precautions can be taken when collecting at a particular station. This would include any pre-existing knowledge that could be helpful to a sample collection crew, including discharges of STP's, animal waste facilities, known "hotspots", high crime areas, etc.

2.7 Results

Out of the 15 stations sampled, all of the 15 stations were sampled for sediment toxicity, grain size and TOC (% fines) and all 15 stations for water inorganics, toxicity, organics and dissolved trace metals were collected. There was a shortage of sediment at site # 906LPRSC4 due to the elevated water levels, but the half of the authorized sediment was still collected.

2.8 Description of Sample Collection Stations

There was one CDFG/Marine Pollution Studies Laboratory team that sampled the Carlsbad and Los Penasquitos Watersheds during the week of 4/22-4/25, 2002. Section 2.8.1 (below) lists the sampling date, time and occurrences in detail at each site.

2.8.1 Samples Collected the week of 4/22-4/25, 2002 By: Sean Mundell and Bettina Sohst.

Please note that only sampling events related to the Penasquitos HU are included.

Station Name: Poway Creek 2
Sample Station Number: 906LPP0W2
Date: 4/24/02 Arrival Time: 0955

We accessed this site using the nominal coordinates on the GPS. There was a cul-de-sac for parking close to the sampling site. There were small side streams across the entire streambed but the water was collected in the main channel. Sediment was collected also in the main channel and had lots of organics due to the heavy tulle growth. There was also a oily film in the sediment collected. All authorized water and sediment samples were collected.

Station Name: Tecolote Creek 3

Sample Station Number: 906LPTEC3

Date: 3/14/02 Arrival Time: 1215

We accessed this site using the nominal coordinates on the GPS. Carla from the Tecalote Regional Park was contacted before we went to the site. She unlocked the gate that made access easier to the sampling site. Since the sampling team could not find sediment during the previous sampling event, they were instructed by RWQCB staff to travel farther upstream to look for fine grain sediment. Access and sediment was found .3 miles up from the previous sampling event. All authorized water and sediment samples were collected.

Station Name: Rose Canyon Creek 4

Sample Station Number: 906LPRSC4

Date: 4/24/02 Arrival Time: 1340

We accessed this site using the nominal coordinates on the GPS. There was a lot of poison oak on the trail that led down to the streambed. Due to the heavy rainfall the water levels were much higher than normal and there was an abundance of storm water runoff. There was no clarity in the water and there was a strong smell of sewer. Due to the high water level, sediment was hard to find and only half of the authorized sediment was collected. All authorized water samples were collected.

Station Name: Soledad Canyon Creek 2

Sample Station Number: 906LPS0L2

Date: 4/24/02 Arrival Time: 1555

We accessed this site using the nominal coordinates on the GPS. We parked in the back of the fresh water systems parking lot and had walk down steep bank to get to the sampling site. This site had higher than normal water levels due to recent rainfall. There was fine grain sediment located upstream from where the water samples were taken. All authorized water and sediment were collected.

Station Name: Los Penasquitos Creek 6

Sample Station Number: 906LPLPC6

Date: 4/24/02 Arrival Time: 1650

We accessed this site using the nominal coordinates on the GPS. The access gate that we used for the previous sampling event was locked. We found access downstream in the back of an industrial park parking lot. All authorized water and sediment samples were collected.

**Cruise Report for the
Surface Waters Ambient Monitoring Program (SWAMP)
of the
California Regional Water Quality Board San Diego Region (RWQCB9)**

Round 3 “Declining Base Flow” Season Sample Collection (FY00-01 funded)

Sampling dates: June 3-6, 2002

**Written by: Bettina Sohst
MPSL at Moss Landing Marine Laboratories
Updated: 6/25/02**

1.0 Introduction

This report describes the sampling activities and access issues for sampling stations visited during the SWAMP “declining base flow” sample-collection effort for the California Regional Water Quality Control Board San Diego Region (RWQCB 9). The sampling for this “declining base flow” season (Round 3) of RWQCB 9's work was authorized via FY00-01 funding in support of SWRCB Contract No. 00-111-250. The work for the first year SWAMP RWQCB 9 effort, including this “declining base flow” season Round 3, focuses on monitoring Carlsbad and Los Penasquitos watersheds. Table 1 is attached, which provides a summary of the information from each station in regards to what type of media was authorized to be collected, and what was actually possible to be collected.

2.0 Cruise Report

2.1 Objectives

The objectives were to collect water and sediment from fifteen (15) stations - ten (10) Carlsbad Watershed sites, and five (5) Los Penasquitos Watershed sites. The water and sediment would be used for specific analyses as directed by RWQCB 9 in task order-00-9-001 (see Section 2.5 below). Blind duplicates were collected at a rate of 5% of the stations sampled for each specific type of analyses authorized. No field duplicate samples were authorized or collected for toxicity testing.

2.2 Sampling personnel

Bettina Sohst
Autumn Bonnema

MPSL/CDFG
MPSL/CDFG

Crew Lead
Scientific Aid

2.3 Authorization to collect samples

All sampling personnel is Marine Pollution Studies Laboratories staff (through San Jose State University Foundation) contracted through California Department of Fish and Game (CDFG) SWAMP contract # P0075038 to conduct the sample collection activities listed herein. The funding and authorization to collect the samples described herein is contained in the State Water Resources Control Board (SWRCB) to CDFG Task Order-00-9-001, including the description of each type of sample necessary to be collected at each station, based on analyses authorized for samples to be collected from each station.

2.4 Station selection and reconnaissance

RWQCB 9 SWAMP personnel chose sampling stations, conducted the pre-sample collection reconnaissance activities, provided reconnaissance sheets for sample sites and authorized the specific types of analyses to be conducted at each station, as well as the funding for the collection and analyses as set forth in the Task Order 00-9-001. See Table 1, which provides the attached summary of analysis and date collected for the locations sampled.

2.5 Summary of types of samples authorized to be collected

A total of 15 stations were visited during this Round 3 "declining base flow" sample collection effort, in order to attempt to collect samples of water and sediment. Sample stations were reached either via hiking or driving to the various streams, and carrying the sampling equipment to each station. Each of the 15 stations had the same water and sediment analyses authorized to be conducted, dictating the volumes of water necessary at each station, as well as the types of containers, and any specific collection (QA/QC requirements-preservatives, homogenizing, aliquoting, cooling, etc.).

At all 15 stations, multiparameter probe measurements were authorized to be taken for D.O., pH, temperature, conductivity, and turbidity.

At all 15 stations, centroid velocity measurements were authorized to be taken. The velocity probe wading rod measures the total depth at an "average" location in the streambed. The velocity meter measures the flow by counting the total revolutions of the flow wheel. The flow wheel measures the stream velocity at 6/10 of the total depth in the streambed.

At all 15 stations, water was authorized to be collected for various conventional water quality parameter analyses (total ammonia--unionized ammonia will be calculated, and reported in the dataset, from the total ammonia measurement using synoptic instantaneous probe measurements for pH and temperature when water sample is taken for total ammonia; nitrate; ortho-phosphate; total phosphate; sulfate; TKN; Alkalinity). Water was also authorized to be collected for conducting water column chemistry for dissolved trace metals and organic pollutants (PCB's PAH's and conventional pesticides).

At all 15 stations, water samples were authorized to be collected for the EPA 2-species toxicity tests to be conducted (*Ceriodaphnia* and *Selenastrum* algae). At these same 15 stations, sediment samples were authorized to be collected for toxicity testing using

Hyalella, and for grain size assessment (% fines analysis) as well as for Sediment Archives.

The summary of authorized analyses for each station and types of samples to be collected are listed in Table 1. Once samples were collected, they were put on ice and shipped via overnight Federal Express service to various laboratories for authorized analysis, per appropriate SOP's.

2.6 Discussion

One of the team members had visited the sites previously. Using some of the memorized access routes made finding the sites easier. Questions about correct locations and driving directions still arose, though and more detailed recon. driving directions are needed for some sites (see 2.8.1).

There were concerns at many of these stations that the water and sediment could be contaminated with elements detrimental to the sampling crew's health. While this is always a concern for sample collection efforts, and all samples should be deemed as potentially hazardous, it would be very helpful and in fact it is requested from here forward that any known information about a station be provided well in advance, so that proper precautions can be taken when collecting at a particular station. This would include any pre-existing knowledge that could be helpful to a sample collection crew, including discharges of STP's, animal waste facilities, known "hotspots", high crime areas, etc.

2.7 Results

All of the 15 stations were sampled for sediment toxicity, grain size (% fines) and Archives as well as for water inorganics, toxicity, organics and dissolved trace metals. Only five sites allowed velocity measurement. The other streams were either flowing too slow for the instrument to work or were close to stagnant.

2.8 Description of Sample Collection Stations

One Moss Landing Marine Laboratory team sampled the Carlsbad and Los Penasquitos Watersheds during the week of 6/3-6/6/2002. Section 2.8.1 (below) lists the sampling date, time and occurrences in detail at each site.

2.8.1 Samples Collected the week of 6/3 to 6/6/2002

Please note that only sampling events related to the Penasquitos HU are included.

Station Name: Tecolote Creek 3
Sample Station Number: 906LPTEC3
Date: 6/5/02 Arrival Time: 0735

We accessed this site the same way we had during the previous visit. We had contacted the rangers at Tecolote Regional Park beforehand and upon our arrival they handed us a key to unlock the gate to the sampling site. We were told to keep the key for future sampling events. During the previous sampling event the team had been instructed by RWQCB staff to travel farther upstream to look for fine grain sediment, since no

sediment could be found at the original site during the first sampling event. Access and sediment was found 0.3 miles up from the previous sampling event. The stream was covered with an oily, yellow substance. All authorized water and sediment samples were collected.

Station Name: Rose Canyon Creek 4
Sample Station Number: 906LPRSC4
Date: 6/5/02 Arrival Time: 0901

We accessed this site the same way we had during the previous visit. There was a lot of poison oak on the trail that led down to the streambed. There were mostly small pebbles and large rocks up and downstream at this sampling site, which made sediment collection difficult. All authorized water samples were collected.

Station Name: Poway Creek 2
Sample Station Number: 906LPPOW2
Date: 6/5/02 Arrival Time: 1033

Recon driving directions were not sufficient. We accessed this site using the nominal coordinates on the GPS and the provided hand-drawn map, and ended up having to cross Rattlesnake Creek to reach Poway Creek. We sampled near the bridge. The stream was completely overgrown with Tulle. All authorized water and sediment samples were collected.

Station Name: Soledad Canyon Creek 2
Sample Station Number: 906LPSOL2
Date: 6/5/02 Arrival Time: 1238

We accessed this site using the recon info and the nominal GPS coordinates. We parked in the back of the Fresh Water Systems parking lot and had to walk down a steep bank to get to the sampling site. There was fine grain sediment located upstream from where the water samples were taken. All authorized water and sediment were collected.

Station Name: Los Penasquitos Creek 6
Sample Station Number: 906LPLPC6
Date: 6/5/02 Arrival Time: 1348

Driving directions to this site were very vague. We parked in the parking lot of 11189-11199 Sorento Valley Rd close to Genetronics and accessed the stream by walking down the bank from there. This site was very close to the nominal GPS coordinates. All authorized water samples were collected.

**Cruise Report for the
Surface Waters Ambient Monitoring Program (SWAMP)
of the
California Regional Water Quality Board San Diego Region (RWQCB9)**

“Spring” Season Sample Collection (FY00-01 funded)

Sampling dates: June 3, 2002

**Written by: Sean Mundell
MPSL at Moss Landing Marine Laboratories
Updated: 7/1/02**

1.0 Introduction

This report describes the sampling activities and access issues for sampling stations for the SWAMP “spring” sample collection effort for the California Regional Water Quality Control Board San Diego Region (RWQCB 9). The “spring” for this Round 1 of RWQCB 9’s work authorized via FY00-01 funding in support of SWRCB Contract No. 00-111-250. The work for the first year SWAMP RWQCB 9 effort, including this “spring” season focuses on monitoring Carlsbad and Los Penasquitos watersheds. Table 1 is attached which provides a summary of the information from each station in regards to what type of media was authorized to be collected, and what was actually able to be collected.

2.0 Cruise Report

2.1 Objectives

The objectives were to collect fish at four (4) stations that were designated by RWQCB 9 staff to coordinate with previous water and sediment collection in the Carlsbad and Los Penasquitos watersheds. The fish tissue would be used for specific analyses as directed by RWQCB 9 in task order-00-9-001 (see Section 2.5 below).

2.2 Sampling personnel

Sean Mundell	MPSL/CDFG	Crew Lead
Gary Ichikawa	MPSL/CDFG	Crew Lead

2.3 Authorization to collect samples

All sampling personnel are Marine Pollution Studies Laboratories staff (through San Jose State University Foundation) contracted through California Department of Fish and Game (CDFG) SWAMP contract # P0075038 to conduct the sample collection activities listed herein. The funding and authorization to collect the samples described herein is contained in the State Water Resources Control Board (SWRCB) to CDFG Task Order-00-9-001, including the description of each type of sample necessary to be collected at each station, based on analyses authorized on samples to be collected from each station.

2.4 Station selection and reconnaissance

RWQCB 9 SWAMP personnel chose sampling stations, conducted the pre-sample collection reconnaissance activities, provided reconnaissance sheets for sample sites, authorized the specific types of analyses to be conducted at each station, as well as the funding for the collection and analyses as set forth in the Task Order 00-9-001. See Table 1, which provides the attached summary of analysis and date collected for the locations sampled.

2.5 Summary of types of samples authorized to be collected

A total of 4 stations were visited during this "spring season" sample collection effort, in order to attempt to collect fish samples. Sample stations were reached either via hiking or driving to the various streams, and carrying the sampling equipment to each station. Each of the 4 stations had 5 fish of the same species authorized to be collected that were all within a 75% size range of each individual.

2.6 Discussion

Since the sampling team had already previously sampled the 4 sites for water and sediment, the access issues and directions were much more easier to follow. There were concerns due to R9's low annual rainfall that there would not be enough water to support a fish community in the small streams sampled. At the sites where fish could not be collected, enough crayfish were collected to give the same amount of tissue as five fish for each station.

2.7 Results

Out of the 4 stations sampled, only 2 of the 4 had fish species in the existing water bodies. Crayfish were collected at the other 2 authorized stations. Section 2.8.1 lists, in detail, the fish collected and access issues at each station.

2.8 Description of Sample Collection Stations

There was one CDFG/Marine Pollution Studies Laboratory team that sampled the Carlsbad and Los Penesquitos Watersheds on June 3, 2002.

2.8.1 Samples Collected on 6/3, 2002 By: Sean Mundell and Gary Ichikawa.

Station Name: Rose Canyon Creek 4

Sample Station Number: 906LPRSC4

Date: 6/3/02 Arrival Time: 1100

This site was accessed by using the nominal coordinates on the GPS and directions given by RWQCB 9. The sample site is downstream of the original water and sediment collection site and about 100m downstream of the mission bridge. The sample team searched for fish but only could find crayfish. 40 crayfish were collected in a 30m area.

Station Name: Los Penasquitos Creek 6

Sample Station Number: 906LPLPC6

Date: 6/3/02 Arrival Time: 1300

This site was accessed by using the nominal coordinates on the GPS and directions given by RWQCB 9. This site was also the same as the water and sediment collection station. Due to the shallow water and minimal flow of this stream, there were some very small fish but not big enough to shock. The sampling team hiked downstream and found a deep pool and caught 49 crayfish.

**Cruise Report for the
Surface Waters Ambient Monitoring Program (SWAMP)
of the
California Regional Water Quality Board San Diego Region (RWQCB9)**

Round 4 “Minimum Base Flow” Season Sample Collection (FY00-01 funded)

Sampling dates: September 16-19, 2002

**Written by: Sean Mundell
MPSL at Moss Landing Marine Laboratories
Updated: 10/14/02**

1.0 Introduction

This report describes the sampling activities and access issues for sampling stations visited during the SWAMP “minimum base flow” sample-collection effort for the California Regional Water Quality Control Board San Diego Region (RWQCB 9). The sampling for this “minimum base flow” season (Round 4) of RWQCB 9's work was authorized via FY00-01 funding in support of SWRCB Contract No. 00-111-250. The work for the first year SWAMP RWQCB 9 effort, including this “minimum base flow” season Round 4, focuses on monitoring Carlsbad and Los Penasquitos watersheds. Table 1 is attached, which provides a summary of the information from each station in regards to what type of media was authorized to be collected, and what was actually possible to be collected.

2.0 Cruise Report

2.1 Objectives

The objectives were to collect water and sediment from fifteen (15) stations - ten (10) Carlsbad Watershed sites, and five (5) Los Penasquitos Watershed sites. The water and sediment would be used for specific analyses as directed by RWQCB 9 in task order-00-9-001 (see Section 2.5 below). Blind duplicates were collected at a rate of 5% of the stations sampled for each specific type of analyses authorized. No field duplicate samples were authorized or collected for toxicity testing.

2.2 Sampling personnel

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2.3 Authorization to collect samples

All sampling personnel is Marine Pollution Studies Laboratories staff (through San Jose State University Foundation) contracted through California Department of Fish and Game (CDFG) SWAMP contract # P0075038 to conduct the sample collection activities listed herein. The funding and authorization to collect the samples described herein is contained in the State Water Resources Control Board (SWRCB) to CDFG Task Order-00-9-001, including the description of each type of sample necessary to be collected at each station, based on analyses authorized for samples to be collected from each station.

2.4 Station selection and reconnaissance

RWQCB 9 SWAMP personnel chose sampling stations, conducted the pre-sample collection reconnaissance activities, provided reconnaissance sheets for sample sites and authorized the specific types of analyses to be conducted at each station, as well as the funding for the collection and analyses as set forth in the Task Order 00-9-001. See Table 1, which provides the attached summary of analysis and date collected for the locations sampled.

2.5 Summary of types of samples authorized to be collected

A total of 14 stations were visited during this Round 4 "minimum base flow" sample collection effort, in order to attempt to collect samples of water and sediment. Sample stations were reached either via hiking or driving to the various streams, and carrying the sampling equipment to each station. Each of the 14 stations had the same water and sediment analyses authorized to be conducted, dictating the volumes of water necessary at each station, as well as the types of containers, and any specific collection (QA/QC requirements-preservatives, homogenizing, aliquoting, cooling, etc.).

At all 14 stations, multiparameter probe measurements were authorized to be taken for D.O., pH, temperature, conductivity, and turbidity.

At all 14 stations, centroid velocity measurements were authorized to be taken. The velocity probe wading rod measures the total depth at an "average" location in the streambed. The velocity meter measures the flow by counting the total revolutions of the flow wheel. The flow wheel measures the stream velocity at 6/10 of the total depth in the streambed.

At all 14 stations, water was authorized to be collected for various conventional water quality parameter analyses (total ammonia--unionized ammonia will be calculated, and reported in the dataset, from the total ammonia measurement using synoptic instantaneous probe measurements for pH and temperature when water sample is taken for total ammonia; nitrate; ortho-phosphate; total phosphate; sulfate; TKN; Alkalinity). Water was also authorized to be collected for conducting water column chemistry for dissolved trace metals and organic pollutants (PCB's PAH's and conventional pesticides).

At all 14 stations, water samples were authorized to be collected for the EPA 2-species toxicity tests to be conducted (*Ceriodaphnia* and *Selenastrum* algae). At these same 14 stations, sediment samples were authorized to be collected for toxicity testing using

Hyalella, and for grain size assessment (% fines analysis) as well as for Sediment Archives.

The summary of authorized analyses for each station and types of samples to be collected are listed in Table 1. Once samples were collected, they were put on ice and shipped via overnight Federal Express service to various laboratories for authorized analysis, per appropriate SOP's.

2.6 Discussion

Since the sampling team had already been all of the stations, there was no problem finding the sample locations. RWQCB 9 sampling personnel conducted the pre-sample collection reconnaissance activities and found that Tecolote Creek (site # 906LPTEC3) was dry. This made a total of 14 stations rather than the usual 15 stations sampled for Region 9. No alternate sites were sampled for this station.

There were concerns at many of these stations that the water and sediment could be contaminated with elements detrimental to the sampling crew's health. While this is always a concern for sample collection efforts, and all samples should be deemed as potentially hazardous, it would be very helpful and in fact it is requested from here forward that any known information about a station be provided well in advance, so that proper precautions can be taken when collecting at a particular station. This would include any pre-existing knowledge that could be helpful to a sample collection crew, including discharges of STP's, animal waste facilities, known "hotspots", high crime areas, etc.

2.7 Results

Out of the 15 stations authorized to be sampled, 13 of the 15 were sampled for sediment toxicity, grain size (% fines) and archives. Site # 906LPRSC4 (Rose Canyon Creek) had only small pebbles and large rocks so no sediment was collected. Site # 906LPTEC3 was dry and no water or sediment samples were collected at this site. 14 of the 15 stations authorized were collected for water inorganics, toxicity, organics and dissolved trace metals. Blind Duplicate #900BDQ004 was collected at site #904CBESC5 (San Marcos Creek). Blind duplicates were collected at a rate of 5% of the stations sampled for each specific type of analyses authorized.

2.8 Description of Sample Collection Stations

One Moss Landing Marine Laboratory team sampled the Carlsbad and Los Penasquitos Watersheds during the week of 9/16-9/18/2002. Section 2.8.1 (below) lists the sampling date, time and occurrences in detail at each site.

2.8.1 Samples Collected the week of 9/16 to 9/18 2002

Please note that only sampling events related to the Penasquitos HU are included.

Station Name: Poway Creek 2
Sample Station Number: 906LPPOW2
Date: 6/5/02 Arrival Time: 1315

We reached this site using station maps and the GPS coordinates. We had to hike down stream to find an open area due to the overgrown tulles. All authorized water and sediment samples were collected.

Station Name: Rose Canyon Creek 4
Sample Station Number: 906LPRSC4
Date: 9/18/02 Arrival Time: 1350

We accessed this site the same way we had during the previous visit. There was a lot of poison oak on the trail that led down to the streambed. There were mostly small pebbles and large rocks up and downstream at this sampling site, which made sediment collection impossible. No sediment was collected at this site. All authorized water samples were collected.

Station Name: Los Penasquitos Creek 6
Sample Station Number: 906LPLPC6
Date: 9/18/02 Arrival Time: 1430

We accessed this site by GPS coordinates and accessed the stream by walking down the dirt bank to the creek bed. This site was very close to the nominal GPS coordinates. All authorized water and sediment samples were collected.

Station Name: Soledad Canyon Creek 2
Sample Station Number: 906LPSOL2
Date: 6/5/02 Arrival Time: 1238

We accessed this site using the recon info and the nominal GPS coordinates. We parked in the back of the Fresh Water Systems parking lot and had to walk down a steep bank to get to the sampling site. There was fine grain sediment located upstream from where the water samples were taken. All authorized water and sediment were collected.
